

## **Amendments to the Specification:**

**Please replace (57) Abstract section with the following amended Abstract section:**

(57) **Abstract:** [[Based on the law of dynamic water-separation, in this invention, a new type of front-mounted booster water-separation propeller has been designed to raise a vessel's speed by reducing resistance from water and increasing the advance force. It's composed of two parts, of which the external includes an influent tube (1), a left thin, flat gushing gutter (2), a right thin, flat gushing gutter (3), and screwed connections (6), of which interior includes a booster (4) and its axle (5). Both parts can be changed independently.]] It is a novel invention designed according to the law of water separation dynamics. The device is installed onto the front end, that is, the bow of the vessel to reduce the frontal resistance and increase the thrust. It is composed of two parts, the external part and the interior part. The former includes an inflow pipe (1), a left-side flat nozzle (2), a right-side flat nozzle (3), and some connecting screws (6), whereas the latter a propeller (4) and its axle (5). Both of the two parts can be replaced independently.

**Please replace "Technical Field" paragraph with the following amended "Technical Field" paragraph:**

A FRONT-MOUNTED WATER-SEPARATION TECHNICAL FIELD [[This invention refers to a new type of water-separation propeller will be installed in front of the vessel.]] This invention is a water-separation propeller, designed to be installed right onto the front end of a vessel.

**Please replace "Background of Invention" paragraph with the following amended "Background of Invention" paragraph:**

BACKGROUND OF INVENTION [[Nowadays, there is no dynamic installation in the field of ship's propeller, by which the frontal resistance may greatly reduce and the advance force may increase, as to raise the vessel's speed. It's known that the density of

water is over 800 times higher than that of air. When a vessel is navigating, it encounters resistance from water. Its frontal resistance from water amounts to more than 80% of the total resistance. Therefore, it is less effective to raise the vessel's speed by the means of either changing the external structure of the vessel or singly enhancing the advance force.]] Of all the types of propeller now in use for vessels, none is designed according to water separation dynamics to decrease frontal resistance and increase thrust. Water density is 800 times higher than air density. The faster a vessel moves, the greater the frontal resistance becomes. When the speed of a large or median-sized vessel reaches 10 knots, its frontal resistance is so great that it takes as much as 80% of the total resistance. Therefore, no marked improvement is possible only by changing the shape of a vessel or enhancing the driving power of its.

**Please replace "Contents of Invention" paragraph with the following amended "Contents of Invention" paragraph:**

CONTENTS OF INVENTION [[This new type of propeller is composed of an influent tub, a left thin, flat gushing gutter, a right thin, flat gushing gutter, a booster and its axle, and screwed connections. The booster sucks the water through the influent tube right from the front of the vessel, and then conveys the water with high speed by both wing-like gushing gutters to the side back of the vessel. This gushing high-speed water can largely push the vessel forward. Meanwhile, with the raise of speed of the vessel, the frontal resistance from water increases, the gushing water with high speed from both sided-gutters will forms into a water-separation force in front of the vessel, as a result of reduce of resistance. Moreover, this gushing water may become turbulence to reduce the useless efficiency caused by the induced-flow.

This inventive design is structurally simple, costly low, ensuring no need to change the current configuration while attaching on the vessel. Compared to the current technology in this area, it fills the blank with front-mounted water-separation propeller. It may also play an energy-conservation, environment-protection role.]]

The said invention is composed of an inflow pipe, a left-side flat nozzle, a right-side flat nozzle, a propeller and its axle, and some connecting screws.

The propeller sucks frontal water into the inflow pipe from the front end of the vessel, and then laterally ejects the water at high-speed through the openings of the two flat nozzles towards the rear on port and starboard. That creates a means of applying the theory of water-separation in fluid dynamics. As a result, it brings in following functions.

First of all, the ejected high-speed water flow from both left-side and right-side flat nozzles of the said invention forms a water-separation force right upon the front of the port and starboard bow. That results in the resistance reduction when vessel is running forward.

Moreover, said the ejected high-speed water create the turbulence, which can increase the propulsive efficiency of the main engine's. That efficiency is always deducted by the induced-flow, as we all know.

Furthermore, the laterally ejected high-speed water flow can push the vessel forward.

The said invention is structurally simple and at low cost. No change upon the hull structure of the vessel is compulsory while the invention is installed. Compared to the current technology in this area, the front-mounted water-separation propeller is a technological break-through. It can significantly reduce the frontal resistance and increase the navigating speed. It also plays an important role in energy-conservation and environment-protection.

**Please replace “Brief explanation of attached Diagrams” paragraph with the following amended “Brief explanation of attached Diagrams” paragraph:**

BRIEF EXPLANATION OF ATTACHED DIAGRAMS [[Diagram 1 is a cross-sectional view of the structure of this invention, in which,

1 = influence tube, 2 = left thin, flat gushing gutter, 3 = right thin, flat gushing gutter, 4 = booster, 5 = axle of booster, 6 = screwed connection.

From attached diagram, you may find the propeller of this invention consists of influence tube 1, left thin, flat gushing gutter 2, right thin, flat gushing gutter 3, and screwed connection 6, being as the external part of this invention, and booster 4, axle of booster 5, being as the interior part. Screwed connections are the parts of attaching this invention on the front of the vessel.

In this invention, this propeller will start to push the vessel when the flowing speed in the influence tube 1 is higher than the speed of the vessel, and the efficiency of water-separation and advance will increase with the ratio of the flowing speed in the influence tube 1.]]

Diagram 1 is a cross-sectional view of the structure of this invention, in which,

1 = inflow pipe, 2 = left-side flat nozzle, 3 = right-side flat nozzle, 4 = propeller, 5 = axle of the propeller, 6 = connecting screws

Referred to the attached diagram, said invention features two parts. An inflow pipe (1), left-side flat nozzle (2), right-side flat nozzle (3), and connecting screws forms the external part of said invention, whereas a propeller (4) and said propeller's axle (5) the interior part of it. Said invention is front-mounted with screws onto the bow of the vessel.

The said invention creates a propelling power when the speed of fluid flow in the said inflow pipe is higher than that of the vessel. The speed of fluid flow in said inflow pipe is proportional to the propulsive efficiency of the water-separation propeller.